

CLAIMS

We claim:

1. A decorative laminate comprising, in order in the following superimposed relationship:

5 a decorative layer; and
a core layer comprising PETG.

2. The decorative laminate of claim 1, wherein said decorative laminate is a high pressure decorative laminate.

3. The decorative laminate of claim 1, wherein said decorative laminate is a low
10 pressure decorative laminate.

4. The decorative laminate of claim 1, wherein said decorative laminate is a continuous laminate.

5. The decorative laminate of claim 1, wherein said PETG comprises at least one sheet of PETG.

15 6. The decorative laminate of claim 1, wherein said core layer further comprises at least one layer of a woven or non-woven sheet formed from a material selected from the group consisting of glass, carbon or polymeric fiber.

7. The decorative laminate of claim 6, wherein said at least one layer is sandwiched in between two PETG sheets.

8. The decorative laminate of claim 1, wherein said decorative laminate further comprises an overlay layer on top of said decorative layer.

9. The decorative laminate of claim 8, wherein said overlay layer includes abrasive particles.

5 10. The decorative laminate of claim 9, wherein said abrasive particles comprise alumina.

11. The decorative laminate of claim 8, wherein said overlay layer is impregnated with a melamine formaldehyde resin.

10 12. The decorative laminate of claim 1, wherein said decorative layer is impregnated with a melamine formaldehyde resin.

13. The decorative laminate of claim 1, wherein said decorative layer includes a printed pattern.

14. A decorative laminate comprising, in order in the following superimposed relationship:

- 15
- a wear resistant layer;
 - a decorative layer; and
 - a core layer comprising at least one sheet of PETG.

15. The decorative laminate of claim 14, wherein said decorative laminate is a high pressure decorative laminate.

16. The decorative laminate of claim 14, wherein said decorative laminate is a low pressure decorative laminate.

17. The decorative laminate of claim 14, wherein said decorative laminate is a continuous laminate.

5 18. The decorative laminate of claim 14, wherein said wear resistant layer is an overlay layer on top of said decorative layer, said overlay layer including abrasive particles.

19. The decorative laminate of claim 18, wherein said abrasive particles comprise alumina.

20. A decorative laminate assembly comprising, in order in the following
10 superimposed relationship:

(a) a decorative laminate top layer assembly comprising, in order in a superimposed relationship:

(i) a decorative layer,

(ii) a core layer comprising PETG; and

15 (b) a substrate attached to said decorative laminate top layer assembly.

21. The decorative laminate of claim 20, wherein said decorative laminate is a high pressure decorative laminate.

22. The decorative laminate of claim 20, wherein said decorative laminate is a low pressure decorative laminate.

23. The decorative laminate of claim 20, wherein said decorative laminate is continuous laminate.

24. The decorative laminate of claim 20, wherein said PETG is at least one sheet of PETG.

5 25. The decorative laminate of claim 20, wherein said core layer further comprises at least one layer of a woven or non-woven sheet formed from a material selected from the group consisting of glass, carbon or polymeric fiber.

26. The decorative laminate of claim 25, wherein said at least one layer is sandwiched in between two PETG sheets.

10 27. The decorative laminate of claim 20, wherein said decorative laminate further comprises an overlay layer on top of said decorative layer.

28. The decorative laminate of claim 27, wherein said overlay layer includes abrasive particles.

15 29. The decorative laminate assembly of claim 20, wherein said substrate is water resistant.

30. The decorative laminate assembly of claim 29, wherein said water resistant substrate comprises polyvinyl chloride.

31. The decorative laminate assembly of claim 29, wherein said water resistant substrate comprises fiber reinforced cement board.

32. The decorative laminate assembly of claim 20, wherein said substrate is attached to said top layer assembly with a water resistant adhesive.

33. A decorative laminate assembly comprising, in order in the following superimposed relationship:

5 (a) a high pressure decorative laminate top layer assembly comprising, in order in a superimposed relationship:

(i) a wear resistant layer;

(ii) a decorative layer; and

(iii) a core layer comprising PETG;

10 (b) a water resistant adhesive layer;

(c) a water resistant substrate, wherein said water resistant adhesive layer bonds together said top layer assembly to said water resistant substrate.

34. The decorative laminate of claim 33, wherein said decorative laminate is a high pressure decorative laminate.

15 35. The decorative laminate of claim 33, wherein said decorative laminate is a low pressure decorative laminate.

36. The decorative laminate of claim 33, wherein said decorative laminate is continuous laminate.

37. The decorative laminate of claim 33, wherein said PETG is at least one sheet
20 of PETG.

38. The decorative laminate of claim 33, wherein said wear resistant layer is an overlay layer on top of said decorative layer, said overlay layer including abrasive particles.

39. The decorative laminate assembly of claim 33, wherein said water resistant substrate comprises polyvinyl chloride.

5 40. The decorative laminate assembly of claim 33, wherein said water resistant substrate comprises fiber reinforced cement board.

41. The decorative laminate of claim 33, wherein said core layer further comprises at least one layer of a woven or non-woven sheet formed from a material selected from the group consisting of glass, carbon or polymeric fiber.

10 42. The decorative laminate assembly of claim 41, wherein said at least one layer is sandwiched in between two PETG sheets.

43. A method for producing a decorative laminate comprising:

(a) assembling, in order in the following superimposed relationship, a wear resistant layer, a decorative layer, and a core layer, said core layer comprising PETG;
15 and

(b) subjecting said assembly to heat and pressure, thereby laminating said assembly.

44. The method of claim 43, wherein said wear resistant layer is an overlay layer, said overlay layer including abrasive particles.

20 45. The method of claim 43, wherein said PETG is 0.020 inches thick.

46. The method of claim 43, wherein said pressure is between 1000 and 1200 psig.

47. The method of claim 46, wherein said temperature is between 125°C and 127°C.

48. The method of claim 47, wherein said heat and pressure is maintained for 25-
5 30 minutes.

49. The method of claim 43, further comprising bonding said overlay layer, decorative layer, and core layer to a water resistant substrate after said subjecting to heat and pressure laminating step.

50. The method of claim 49, wherein said water resistant substrate comprises
10 PVC.

51. The method of claim 49, wherein said water resistant substrate comprises fiber reinforced cement board.

52. The method of claim 49, wherein said PETG comprises at least one sheet of PETG.

15 53. A decorative laminate assembly comprising, in order in the following superimposed relationship:

(a) a decorative laminate top layer comprising, in order in a superimposed relationship:

(i) a decorative layer,

(ii) a core layer comprising PETG; and

(b) a substrate directly bonded to said decorative laminate top layer assembly.

54. The decorative laminate of claim 53, wherein said decorative laminate is a high pressure decorative laminate.

5 55. The decorative laminate of claim 53, wherein said decorative laminate is a low pressure decorative laminate.

56. The decorative laminate of claim 53, wherein said decorative laminate is continuous laminate.

57. The decorative laminate of claim 53, wherein said PETG comprises at least
10 one sheet of PETG.

58. The decorative laminate of claim 53, wherein said core layer further comprises at least one layer of a woven or non-woven sheet formed from a material selected from the group consisting of glass, carbon or polymeric fiber.

59. The decorative laminate of claim 58, wherein said at least one layer is
15 sandwiched in between two PETG sheets.

60. The decorative laminate of claim 53, wherein said decorative laminate further comprises an overlay layer on top of said decorative layer.

61. The decorative laminate of claim 60, wherein said overlay layer includes abrasive particles.

62. The decorative laminate assembly of claim 53, wherein said substrate is water resistant.

63. The decorative laminate assembly of claim 62, wherein said water resistant substrate comprises polyvinyl chloride.

5 64. The decorative laminate assembly of claim 62, wherein said water resistant substrate comprises fiber reinforced cement board.

65. A decorative laminate assembly comprising, in order in the following superimposed relationship:

10 (a) a decorative laminate top layer comprising, in order in a superimposed relationship:

(i) a wear resistant layer;

(ii) a decorative layer; and

(iii) a core layer comprising PETG;

15 (b) a water resistant substrate, wherein said water resistant substrate is directly bonded to said core layer.

66. The decorative laminate of claim 65, wherein said decorative laminate is a high pressure decorative laminate.

67. The decorative laminate of claim 65, wherein said decorative laminate is a low pressure decorative laminate.

68. The decorative laminate of claim 65, wherein said decorative laminate is continuous laminate.

69. The decorative laminate of claim 65, wherein said PETG comprises at least one sheet of PETG.

5 70. The decorative laminate of claim 65, wherein said wear resistant layer is an overlay layer on top of said decorative layer, said overlay layer including abrasive particles.

71. The decorative laminate assembly of claim 65, wherein said water resistant substrate comprises polyvinyl chloride.

10 72. The decorative laminate assembly of claim 65, wherein said water resistant substrate comprises fiber reinforced cement board.

73. The decorative laminate of claim 65, wherein said core layer further comprises at least one layer of a woven or non-woven sheet formed from a material selected from the group consisting of glass, carbon or polymeric fiber.

15 74. The decorative laminate assembly of claim 73, wherein said at least one layer is sandwiched in between two PETG sheets.

75. A method for producing a decorative laminate comprising:

(a) assembling, in order in the following superimposed relationship, a wear resistant layer, a decorative layer, a core layer, said core layer comprising PETG, and a substrate; and

(b) subjecting said assembly to heat and pressure, thereby laminating said assembly.

76. The method of claim 75, wherein said wear resistant layer is an overlay layer, said overlay layer including abrasive particles.

5 77. The method of claim 75, wherein said PETG is 0.020 inches thick.

78. The method of claim 75, wherein said pressure is between 400 and 600 psig.

79. The method of claim 78, wherein said temperature is between 125°C and 127°C.

80. The method of claim 79, wherein said heat and pressure is maintained for 25-
10 30 minutes.

81. The method of claim 75, wherein said substrate comprises PVC.

82. The method of claim 75, wherein said substrate comprises fiber reinforced cement board.

83. The method of claim 75, wherein said PETG comprises at least one sheet of
15 PETG.

84. A decorative laminate assembly comprising, in order in the following superimposed relationship:

(a) a decorative laminate top layer comprising, in order in a superimposed relationship:

(i) a decorative layer,

(ii) a core layer comprising a polymeric material; and

(b) a substrate bonded to said decorative laminate top layer assembly.

85. The decorative laminate of claim 84, wherein said decorative laminate is a

5 high pressure decorative laminate.

86. The decorative laminate of claim 84, wherein said decorative laminate is a low pressure decorative laminate.

87. The decorative laminate of claim 84, wherein said decorative laminate is continuous laminate.

10 88. The decorative laminate of claim 84, wherein said polymeric material comprises PETG.

89. The decorative laminate of claim 84, wherein said polymeric material comprises PCTG.

15 90. The decorative laminate of claim 84, wherein said substrate is directly bonded to said top layer assembly.

91. The decorative laminate of claim 84, wherein said decorative laminate further comprises an overlay layer on top of said decorative layer.

92. The decorative laminate of claim 91, wherein said overlay layer includes abrasive particles.

93. The decorative laminate assembly of claim 84, wherein said substrate is water resistant.

94. The decorative laminate assembly of claim 93, wherein said water resistant substrate comprises polyvinyl chloride.

5 95. The decorative laminate assembly of claim 93, wherein said water resistant substrate comprises fiber reinforced cement board.

96. A decorative laminate assembly comprising, in order in the following superimposed relationship:

10 (a) a decorative laminate top layer assembly comprising, in order in a superimposed relationship:

(i) a decorative layer,

(ii) a core layer comprising a polymeric material; and

15 (b) a substrate attached to said decorative laminate top layer assembly, wherein said substrate comprises polyvinyl chloride.

97. The decorative laminate of claim 96, wherein said substrate comprises a first polyvinyl chloride sheet.

20 98. The decorative laminate of claim 97, wherein said substrate further comprises a second polyvinyl chloride sheet bonded to said first polyvinyl chloride sheet.

99. The decorative laminate of claim 98, wherein said first and second polyvinyl chloride sheets comprise a filled polyvinyl chloride.

100. The decorative laminate of claim 99, wherein said second polyvinyl sheet is less filled than the first polyvinyl sheet.

5 101. The decorative laminate of claim 98, wherein said second polyvinyl chloride sheet is bonded to said first polyvinyl chloride sheet with an adhesive.

102. The decorative laminate of claim 96, wherein said substrate is directly bonded to said decorative laminate top layer assembly.

10 103. The decorative laminate of claim 96, wherein said polymeric material comprises PETG.